

GENERAL NOTES FOR WATER LINES

1. City of Columbus water division personnel are to operate all water valves.
2. Any modification of the work as shown on these drawings must have prior written approval by the Hilliard City Engineer and the Administrator, Division of Water, City of Columbus.
3. All water line materials and installations shall be in accordance with the current rules and regulations of the City of Columbus, Division of Water.
4. No person shall begin construction or installation of a public water main until plans have been approved by the State of Ohio Environmental Protection Agency (OEPA).
5. Approval of these plans is contingent upon the City of Hilliard securing an easement that will hold the City of Columbus harmless for damages resulting from maintenance work and/or water damages that could be associated with this water line. Prior to approval of the plan by the Administrator, Division of Water, all easements required for water main construction shall be secured and recorded.
6. All water meters associated with this project shall be installed inside of the proposed structure unless a meter pit is approved by the Administrator of the Division of Water. All meter pits must be approved prior to the issuing of any service permits and must conform to Standard Drawing L-7103 for 5/8 inch through 1 inch meters or L-6317 A, B, C, D, & E for 1-1/2 inch or larger meters.
7. Water lines shall be laid with a minimum of 4 feet 0 inches from the finished surface grade to the top of the water line.
8. All bends, joints deflections and fittings shall be backed with concrete per City of Columbus standards.
9. All water lines shall maintain at least ten (10) feet horizontal and one & one-half (1.5) feet vertical separation from all sanitary or storm sewer lines.
10. All ductile iron water mains shall be wrapped with tube style 8 mil linear low density polyethylene (LLDPE) film in accordance with Standard Drawings L-1003 and L-1004.
11. In case of conflict in grade between water lines and sewers, the water line shall be lowered during construction. Water lines shall be deflected around structures without the use of special fittings, where possible, without exceeding the manufacture's allowable deflection.
12. If the top of the operating nut of a valve is more than 36 inches below finished grade, an extension stem shall be furnished to bring the top of the operating nut to within 24 inches of finished grade.
13. At all points of crossing of water lines and sewers, the trench backfill shall be Compacted Granular Material per COLS Item 801.11, between the deeper and shallower pipe.
14. Backfill for water line trenches under pavement and within the right-of-way shall be Compacted Granular Material, COLS Item 801.11, to the pavement subgrade. Where water

line trenches cross the pavement, COLS Item 801.11 shall extend the full width of the right-of-way, and to within 6 inches of finished grade where not under pavement.

15. Backfill for water line trenches parallel to the pavement and within the right-of-way, with the top of the trench 3 feet or closer to the back of curb or edge of pavement or located under a pedestrian pathway, shall be Compacted Granular Material, COLS Item 801.11, to within 6 inches of finished grade. Backfill for all other water line trenches within the right-of-way parallel to the pavement, shall be Compacted Backfill, COLS Item 801.12. Prior to construction of the streets, the City Engineer may require soil tests on the backfill. Where test results indicate that the backfill does not meet compaction requirements, the backfill shall be removed, replaced, and re-tested until meeting those requirements.
16. Water service boxes shall be located between the curb and proposed or existing sidewalk, 1 foot from the edge of the proposed or existing sidewalk. When no sidewalk is present or proposed, water service boxes shall be located 2' inside the right-of-way or easement line. Refer to COLS Standard Drawing L-9901.
17. Fire hydrants shall be installed per COLS Item 809, and shall meet City of Hilliard and Norwich Township Fire Department Hydrant Specifications included in this plan.
18. All water lines shall be cleaned and flushed in accordance with COLS Item 801.13 prior to hydrostatic testing. Any water main 12 inches and larger must also be properly pigged prior to hydrostatic testing.
19. The Contractor shall test all water lines in accordance with COLS Item 801.14, with the following exception: 150 psi pressure shall be maintained for at least 2 hours, regardless of the amount of leakage. Testing shall be done under the supervision of the City Engineer or his authorized representative at the Contractor's expense.
20. All water lines shall be disinfected in accordance with COLS Item 801.15. Special attention is directed to applicable sections of A.W.W.A. C-651, particularly for flushing (Section 5) and for chlorinating valves and for fire hydrants (Section 7). Cost of work is to be included in price bid for Item 801.
21. When water lines are ready for disinfecting, the Developer's Engineer shall submit four (4) sets of "As Built" plans (full size sheets), an Excel file of the as-built water line coordinates shown on the plan, two (2) sets of the completed Water Service Reports for each water service constructed, and a letter stating that the water lines have been pressure tested and need to be disinfected, to the Hilliard City Engineer. The City of Hilliard will, in turn, submit a written request for chlorination, three (3) sets of "as-built" plans (full size sheets only), the as-built survey coordinates, the Water Service Reports, and the results of the pressure test to the City of Columbus, Division of Water. The Contractor shall be solely responsible for all costs associated with the disinfecting of all water lines constructed under this plan.
22. Survey coordinates shall be obtained for the completed water main construction and shall include all valves, tees, crosses, bends, deflections, plugs, reducers, tapping sleeves, blow offs, chlorination taps, fire hydrants, air releases, curb stops, casing pipe termini, and other fittings. Additional survey coordinates are required on the water main every 500 feet where no fitting or other water main structure is being installed within that length of the

improvement. "Survey Coordinates" include all material, equipment, and labor necessary to obtain horizontal and vertical (northing, easting, and elevation) survey coordinates for the water main improvements.

All survey coordinates shall be referenced to the applicable County Engineer's Monuments, and shall be based on the North American Datum of 1983 (NAD 83) with the (NSRS2007) adjustment, with further reference made to the Ohio State Plane South Coordinate System, South Zone, with elevations based upon North American Vertical Datum of 1988 (NAVD 88). All coordinates (Northing, Easting, Elevation) shall be referenced to the nearest hundredth (N xxxxxxxx.xx, E xxxxxxxx.xx, Elevation xxx.xx). All survey coordinates shall be accurate to within 1.0 foot or less horizontal and one-tenth foot (0.10) or less vertical.

The survey coordinates shall be documented to the Hilliard City Engineer in digital spreadsheet format and shall include the applicable item, station, northing, easting, and elevation. Survey coordinates shall be submitted to the Hilliard City Engineer on a bi-weekly basis. Survey coordinates shall also be required to be submitted to the Division of Water as part of the request for chlorination submitted by the Hilliard City Engineer.

23. No service connection permits shall be issued or connections made to any service taps until water lines have been disinfected by the City of Columbus, Division of Water. When a 3-inch or larger tap is to occur on a 20-inch or larger water main, the Contractor shall notify the Division of Water Operations Control Center at (614) 645-7168 twenty four (24) hours in advance of performing the tap.
24. A tap permit for each water service must be obtained from the City of Hilliard and the City of Columbus, Division of Water prior to making any taps into the water line.
25. The proposed water line shall be located a minimum distance of twenty (20) feet away from any structure, overhang, or footer.
26. On dead end lines in cul-de-sacs, the final two 3/4 inch service taps shall be installed within two (2) feet of the end of the main.
27. All taps made in 2-inch pipe are to be made with Ford Service Saddle, Model S70-203 or approved equal.
28. Magnetic locator tape shall be placed in the trench (6 inches +/-) above all PVC water lines.
29. The Contractor shall imprint a "W", three inches high, in the curb at each water service location.
30. The City of Columbus, Division of Water will be responsible for the repair and maintenance of the water line within the easement area. Backfilling of any excavation caused by the maintenance, repair, or replacement of said water line shall be such that the surface is restored to its former elevation as near as is reasonably possible.
31. The Contractor shall give written notice to all affected property owners at least one (1) working day but not more than three (3) working days prior to any temporary interruption of water service. Interruption of water service shall be held to a minimum and shall be approved by the City Engineer.